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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Eric John Hewitt

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05/02/2006

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EXAMINER

TORRES, JOSEPH D

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,884

Applicant(s)

HEWITT ET AL.

Examiner

Joseph D. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 23-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04/17/2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 1-10 and 23-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/03/2005.

This application contains claims 1-10 and 23-40 drawn to an invention nonelected with traverse in the response filed 10/03/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Arguments

2. Applicant's arguments filed 03/09/2006 have been fully considered but they are not persuasive.

The Applicant contends, "Hence, Glover does not disclose, teach, or even suggest several limitations recited in claim 11. For instance, the cited portion of Glover does not disclose, teach, or even suggest a method that generates a hyper set of encoded data according to the information bits in the (1) row and (2) column, and the (3) first set of encoded data and (4) second set of encoded data. Further, the Examiner states on

page 5 of the Office Action: "However, Glover does not explicitly teach the specific use of hyper-diagonal encoding."

Accordingly, because of the defects in Glover, the Examiner cites Figures 4A, 4B and 5 in Rhines. Respectfully, Applicants submit that the cited figures in Rhines also do not disclose, teach, or even suggest several limitations recited in claim 11, such as, for instance, a method that generates a hyper set of encoded data according to the information bits in the row, column, and the first and second sets of encoded data. In contrast, the cited Figures 4-5 in Rhines show "orthogonal interleaving," which is described in the (uncited) accompanying description as shuffling rows between three data planes to achieve interleaving. Further, in the Office Action dated June 01, 2005, the Examiner previously stated: "However, Rhines does not explicitly teach the specific use of hyper set of encoded data generated based on second sets of encoded data, that is, an arrangement whereby the first encoder in a set of serially concatenated encoders is a row encoder, the second encoder is a column encoder and the third is a hyper encoder.""

The Examiner disagrees and asserts that Rhines explicitly teaches that Outer Interleaver 16 in Figure 2 orthogonally shuffles a block of data by rotating the block as in Figures 4A, 4B and 5 in Rhines so that the hyper-diagonal planes forming a diagonal in the xz-plane are converted to columns in the xz-plane, i.e., the hyper-diagonal planes are rotated so that they are parallel to the xy-axis. Figures 8 and 9 in Rhines explicitly teaches that the Middle Encoder 90 and the Inner Encoder 150 encode the rotated hyper-diagonal planes first in the column direction and then in the row direction. By the

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dictionary definition and rules of grammatical construction for the English Language, the Middle Encoder 90 and the Inner Encoder 150 in Rhines are hyper-diagonal encoders since Middle Encoder 90 and the Inner Encoder 150 encode hyper-diagonal planes.

The Examiner refers the Applicant to the Applicant's own specification and in particular to the Applicant's own Abstract, which teaches hyper-diagonal encoding is performed by first rotating a block of data identically as in Rhines and then encoding along a row or column identically as taught in Rhines. Rhines teaches hyper-diagonal encoding exactly according to the Applicant's own use of the term "hyper-diagonal encoding".

The Applicant contends, "Moreover, Applicants respectfully submit that the cited Abstract in Rhines lacks a motivation to combine with Glover. Rhines' Abstract states, in pertinent part: "The first interleave is an orthogonal row shuffling interleave that provides enhanced protection against burst errors." The interleaving in Rhines is performed for rapid channel transmission. Whereas, Glover is directed to data redundancy for recordation on a video disc, which is distinguishable from Rhines' stated purpose and means. See Glover's Abstract. Further, Glover and Rhines were filed and issued almost ten years apart. Thus, Applicants respectfully submit that the combination of Glover and Rhines comprises impermissible hindsight".

The Examiner disagrees and asserts that the Authoritative Dictionary of IEEE Standards Terms defines channel as A) A one way path for transmission of signals between two or more points, B) The portion of a Storage medium that is accessible to a given read/write C) A combination of transmission media and equipment capable of receiving signals at

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one point and delivering signals at another point. No matter how the Applicant looks at it, a recording media is still a transmission channel and suffer from noise issues just as any other transmission media suffers noise issues that makes other transmission media prone to errors and that motivates error correction for compensating for noise in the channel. The two arts, Glover and Rhines, are about as analogues as two arts can get. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

One of ordinary skill in the art at the time the invention was made would have known that burst errors are a type of error that can occur in any transmission media including video discs (Note: a burst error is a string of contiguous errors that can occur from a scratch on a disc, one of ordinary skill in the art at the time the invention was made would have been thoroughly apprised that interleaving is a means for dealing with burst errors since interleaving for burst errors is one of the most fundamental building blocks of error correction).

The Examiner disagrees with the applicant and maintains all rejections of claims 11-22. All amendments and arguments by the applicant have been considered. It is the

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Examiner's conclusion that claims 11-22 are not patentably distinct or non-obvious over the prior art of record in view of the references, Glover; Neal et al. (US 4564945 A, hereafter referred to as Glover) in view of Rhines; Don S. et al. (US 5392299 A, hereafter referred to as Rhines) as applied in the last office action, filed 12/19/2005. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 11-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Glover; Neal et al. (US 4564945 A, hereafter referred to as Glover) in view of Rhines; Don S. et al. (US 5392299 A, hereafter referred to as Rhines).
- See the Non-Final Action filed 12/19/2005 for detailed action of prior rejections.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JOSEPH TORRES
PRIMARY EXAMINER

Joseph D. Torres, PhD
Primary Examiner
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